

IN THE CLAIMS:

Please amend claim 16, as follows:

B1
16. An electromagnetic device, that is a linear or rotary single- or multi-phase motor or generator, comprising, for each phase, at least two relatively-movable sets of teeth made of soft magnetic material, one set of teeth being associated with the stator and the other with the rotor, the device being of a size enabling it to generate a maximum magnetic potential U_{max} of about $1.7 \times 10^{-4} J/\mu_0$ ampere turns (At), wherein the width E of the minimum air-gap between teeth of the rotor and of the stator as measured in the direction perpendicular to their degree of freedom is approximately equal to or greater than:

the value $0.7[1 - 5 \times 10^{-4}(U_{max} - 1.7 \times 10^{-4} J/\mu_0)]\mu_0 U_{max}/J$

when $[1 - 5 \times 10^{-4}(U_{max} - 1.7 \times 10^{-4} J/\mu_0)] \geq 0.5$

or E is approximately equal to or greater than the value $0.35\mu_0 U_{max}/J$

when $[1 - 5 \times 10^{-4}(U_{max} - 1.7 \times 10^{-4} J/\mu_0)] < 0.5$

or that E is greater than 2×10^{-3} m;

where μ_0 is the permeability of a vacuum, U_{max} is the maximum generated magnetic potential difference for causing the magnetic field to pass through the air-gap E, said potential difference being due either solely to the ampere-turns of the coil(s) feeding the air-gap E, or to the sum of said ampere-turns plus the magnetic potential difference between the two sets of teeth in the absence of currents due to a permanent magnet, and where J is the maximum polarization of the soft magnetic material used for making the teeth.